Center Independent Research & Development: JPL IRAD

Wireless Applique for Integration and Test

Completed Technology Project (2015 - 2016)

Project Introduction

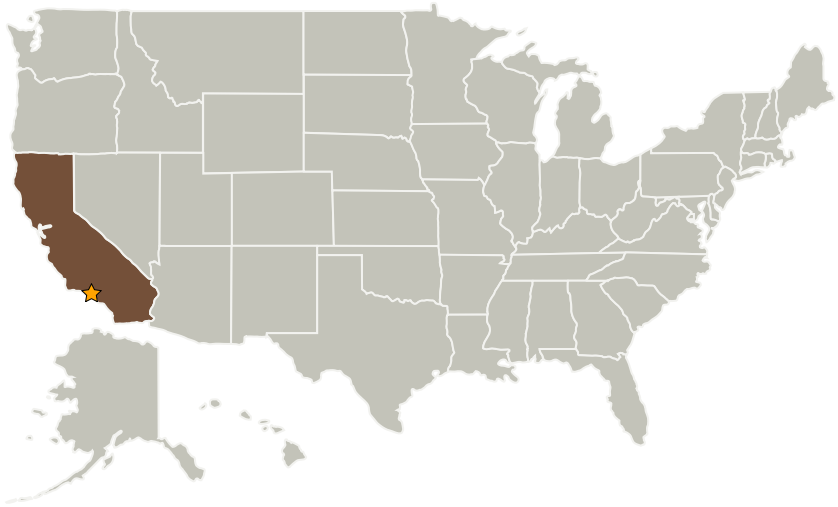
The challenge of this task is to eliminate dedicated communication wires in spacecraft and ground support equipment.

This task will: -Retire key wireless technology risks: -Link reliability in multipath spacecraft environment -Network scalability -Electromagnetic compatibility with science instruments -Provide focused studies on a wireless module for OCO-3 Context Camera, and on fault tolerance Milestones -Intra-spacecraft propagation modeling, EMC and traffic requirements, focused wireless studies, security evaluation. Wireless testbed architecture for EMC, delay & scalability testing. -Testbed development & initial prototype of wireless GSE applique -Demonstrate GSE applique in a relevant I&T/ATLO environment

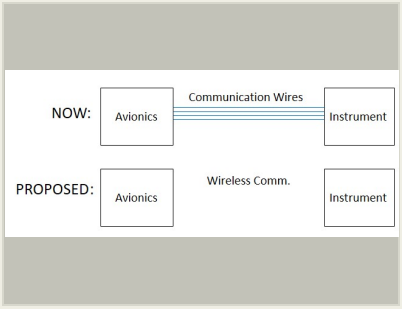
Anticipated Benefits

This technology •Uses wireless communications for intra-spacecraft communications and integration & testing needs •Eliminates dedicated communications harnessing and associated testing and cable routing complexities •Reduces mass, volume, implementation cost

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California



Project Image Wireless Appliqué for Integration and Test

Table of Contents

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

Responsible Program:

Center Independent Research & Development: JPL IRAD

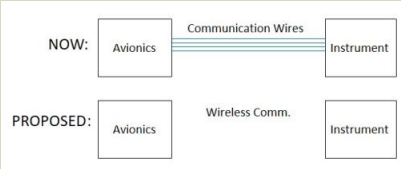
Wireless Applique for Integration and Test

Completed Technology Project (2015 - 2016)

Primary U.S. Work Locations

California

Images



Wireless Appliqué
Project Image Wireless Appliqué for Integration and Test
(https://techport.nasa.gov/image/26100)

Project Management

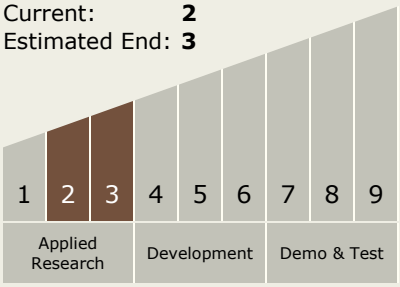
Program Manager:
Fred Y Hadaegh

Project Manager:
Fred Y Hadaegh

Principal Investigator:
Norman E Lay

Technology Maturity (TRL)

Start: **2**
Current: **2**
Estimated End: **3**



Technology Areas

Primary:

- TX05 Communications, Navigation, and Orbital Debris Tracking and Characterization Systems
  - TX05.5 Revolutionary Communications Technologies
    - TX05.5.2 Quantum Communications